

Scaled data based on original data using
LM-79-08 Approved Method: Electrical and Photometric Measurements of Solid-State
Lighting Products

Test Report Prepared for

Cooper Lighting Solutions

(formerly Eaton)

Brand: FAIL-SAFE

Report Number: P546028

Luminaire Tested: **FMR-12-4-LD4-1STD-35-UNV-82-94-EDD**

Issue Date: 6/15/2021

This test was performed under the Supervised Manufacturer's Testing Program. The results of this test have not been influenced by sources from within Cooper Lighting Solutions or from external interests.



Test Information

Test Method: LM-79-08
Report Number: P546028
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (G3-2102-135-5)
Test Lab: INNOVATION CENTER
Issue Date: 6/15/2021
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)
Product Line: FAIL-SAFE
Catalog Number: FMR-12-4-LD4-1STD-35-UNV-82-94-EDD
Description: 1X4 FMR TROFFER WITH .187 CLEAR PC FIXTURE SIDE AND .187 CLEAR
TEMPERED GLASS ENVIRONMENTAL SIDE LENSES WITH, 90 CRI AND 3500K CCT LEDS
Light Source: -
Ballast/Driver: -

Luminaire Equipment: Sample No. Condition Description

Summary

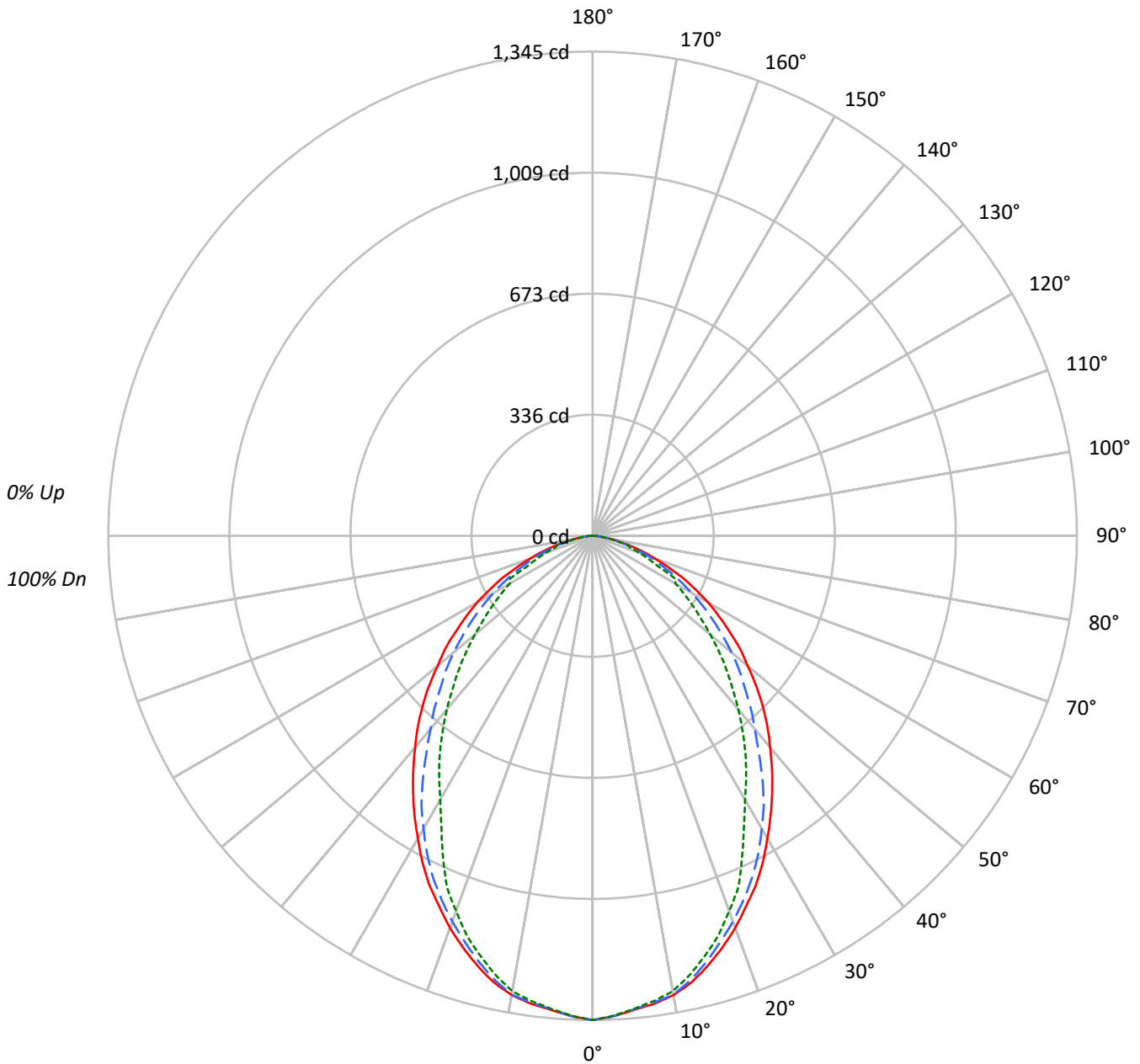
Lumens per Lamp: N/A
Luminaire Lumens: 2641.0 lumens
Efficiency: N/A
Efficacy: 79.3 lumens/watt
Spacing Criteria (0/90/45): 1.1 / 1 / 1.15
Luminous Opening: Rectangular (W 1' x L: 4' x H: 0')
CIE Type: Direct

Input Watts (W): 33.3
Input Voltage (V): NR
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT

TEST NUMBER: P546028

CATALOG NUMBER: FMR-12-4-LD4-1STD-35-UNV-82-94-EDD

Luminous Intensity Polar Plot





TEST NUMBER: P546028

CATALOG NUMBER: FMR-12-4-LD4-1STD-35-UNV-82-94-EDD

COEFFICIENT OF UTILIZATION - ZONAL CAVITY METHOD:

RF	20				20				20				20				20				20
RC	80				70				50				30				10				0
RW	70	50	30	10	70	50	30	10	50	30	10	50	30	10	50	30	10	50	30	10	0
RCR																					
0	119	119	119	119	116	116	116	116	111	111	111	106	106	106	102	102	102	100	100	100	100
1	110	106	102	99	108	104	100	97	100	97	94	96	94	91	92	90	89	87	87	87	87
2	101	94	88	83	99	92	87	82	89	84	80	86	82	78	83	79	77	75	75	75	75
3	93	84	77	71	91	82	76	70	79	74	69	77	72	68	74	70	67	65	65	65	65
4	86	75	67	61	84	74	66	61	72	65	60	69	64	59	67	62	58	56	56	56	56
5	80	68	60	54	78	67	59	53	65	58	53	63	57	52	61	56	52	50	50	50	50
6	74	62	53	48	72	61	53	47	59	52	47	57	51	47	56	50	46	44	44	44	44
7	69	56	48	43	67	56	48	42	54	47	42	53	46	42	51	46	42	40	40	40	40
8	65	52	44	38	63	51	44	38	50	43	38	49	42	38	48	42	38	36	36	36	36
9	61	48	40	35	59	47	40	35	46	39	35	45	39	34	44	38	34	33	33	33	33
10	57	44	37	32	56	44	37	32	43	36	32	42	36	32	41	36	32	30	30	30	30

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°
0°	3620	3620	3620
5°	3571	3567	3563
10°	3540	3536	3510
15°	3444	3410	3362
20°	3318	3265	3176
25°	3182	3112	2918
30°	3016	2919	2629
35°	2856	2698	2432
40°	2693	2459	2213
45°	2539	2273	2001
50°	2350	2110	1784
55°	2175	1912	1598
60°	1992	1708	1431
65°	1753	1495	1268
70°	1444	1309	1077
75°	1148	1002	1051
80°	772	724	674
85°	482	577	673



TEST NUMBER: P546028

CATALOG NUMBER: FMR-12-4-LD4-1STD-35-UNV-82-94-EDD

ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	125.2	4.7
10°-20°	343.7	13.0
20°-30°	475.8	18.0
30°-40°	507.3	19.2
40°-50°	462.8	17.5
50°-60°	362.6	13.7
60°-70°	236.3	8.9
70°-80°	104.7	4.0
80°-90°	22.5	0.9
90°-100°	0.0	0.0
100°-110°	0.0	0.0
110°-120°	0.0	0.0
120°-130°	0.0	0.0
130°-140°	0.0	0.0
140°-150°	0.0	0.0
150°-160°	0.0	0.0
160°-170°	0.0	0.0
170°-180°	0.0	0.0
0°-30°	944.7	35.8
0°-40°	1452.1	55.0
0°-60°	2277.5	86.2
0°-90°	2641.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	2641.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	1345	1345	1345	1345	1345	
5°	1322	1320	1320	1319	1319	125
15°	1236	1236	1224	1212	1207	348
25°	1072	1065	1048	1011	983	492
35°	869	863	821	759	740	544
45°	667	653	597	547	526	514
55°	464	450	408	359	341	416
65°	275	260	235	240	199	271
75°	110	103	96	92	101	118
85°	16	17	19	20	22	22
90°	0	0	0	0	0	



TEST NUMBER: P546028

CATALOG NUMBER: FMR-12-4-LD4-1STD-35-UNV-82-94-EDD

CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	1345.3	1345.3	1345.3	1345.3	1345.3
2.5°	1336.0	1336.0	1336.0	1334.4	1334.4
5°	1322.0	1320.4	1320.4	1318.9	1318.9
7.5°	1311.1	1309.5	1308.0	1306.4	1303.3
10°	1295.5	1295.5	1294.0	1286.2	1284.6
12.5°	1270.6	1269.1	1262.9	1252.0	1248.9
15°	1236.4	1236.4	1224.0	1211.5	1206.9
17.5°	1199.1	1197.5	1182.0	1169.5	1163.3
20°	1158.7	1155.5	1140.0	1119.8	1108.9
22.5°	1113.6	1113.6	1094.9	1068.5	1057.6
25°	1071.6	1065.3	1048.2	1010.9	982.9
27.5°	1023.4	1014.0	995.4	942.5	909.8
30°	970.5	965.8	939.4	870.9	846.1
32.5°	920.7	912.9	884.9	813.4	793.2
35°	869.4	863.2	821.2	759.0	740.3
37.5°	818.1	810.3	757.4	707.6	684.3
40°	766.7	757.4	699.9	654.8	629.9
42.5°	718.5	706.1	650.1	601.9	573.9
45°	667.2	653.2	597.2	547.4	525.7
47.5°	615.9	603.4	552.1	500.8	475.9
50°	561.4	550.6	503.9	452.6	426.1
52.5°	516.3	499.2	454.1	402.8	381.0
55°	463.5	449.5	407.5	359.3	340.6
57.5°	415.3	401.3	362.4	317.3	301.7
60°	370.1	349.9	317.3	278.4	265.9
62.5°	320.4	304.8	276.8	244.2	259.7
65°	275.3	259.7	234.8	239.5	199.1
67.5°	225.5	217.7	196.0	174.2	168.0
70°	183.5	174.2	166.4	143.1	136.9
72.5°	146.2	136.9	126.0	113.5	108.9
75°	110.4	102.6	96.4	91.8	101.1
77.5°	76.2	73.1	68.4	63.8	62.2
80°	49.8	48.2	46.7	45.1	43.5
82.5°	29.5	29.5	29.5	29.5	29.5
85°	15.6	17.1	18.7	20.2	21.8
87.5°	9.3	9.3	10.9	12.4	14.0
90°	0.0	0.0	0.0	0.0	0.0



Report Generated By 670246072 / DESKTOP-MV3F9LC





— 0°-180° - - 45°-225° - - - - 90°-270°







(END OF REPORT)